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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/339,958    06/25/99    RASMUSSEN    R    2146-4

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MMC1/0824

EXAMINER

QUARTERMAN, K

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 08/24/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

**Office Action Summary**

Application No.

09/339,958

Applicant(s)

RASMUSSEN, ROBERT T.

Examiner

Kevin Quarterman

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 June 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 15-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-14, drawn to a flat panel field emission display, classified in class 313, subclass 496.
  - II. Claims 15-27, drawn to a method of making a flat panel field emission display, classified in class 445, subclass 24.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the flat panel field emission display can be made by providing an insulative layer to the display screen of another material, such as glass or plastic, instead of an insulative black matrix.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
6. During a telephone conversation with Mike Shade on August 2, 2001 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-14. Affirmation of this election must be made by applicant in replying to this Office action. Claims 15-27 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

8. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Haven (USPN 5650690).
9. Figure 3 of Haven shows a field-emission display device including a faceplate having a screen (12) with a phosphor coating (32). A black matrix (40) is formed on the faceplate made of black chromium, polyimide, black frit, or other similar material

(Column 5, Lines 50-53). Haven discloses that the field emitters contact a base electrode (Column 10, Lines 37-38).

10. Claims 1, 3-10, and 12-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Cathey et al. (USPN 6255772).

11. Regarding independent claims 1 and 10, Figure 3 of Cathey et al. shows a field-emission display device with a faceplate including a screen (306) having a phosphor coating (320). A baseplate assembly (202) includes an emission source (204) provided opposite the screen having electron-emission cathode tips (310) arranged in an array and a low potential extraction grid (304). A black matrix (322) is provided on the screen. In Column 9, Lines 14-17, Cathey et al. disclose that the black matrix may be formed of any suitable material and should not be affected by electron bombardment, which would make the black matrix insulative.

12. Regarding claim 3, Figure 3 of Cathey et al. shows the emission source including an array of field emitter tip cathodes (310).

13. Regarding claim 4, Figure 3 of Cathey et al. shows the emission source including a low potential extraction grid (304) that is provided adjacent the field emitter tip cathodes.

14. Regarding claim 5, Figure 3 of Cathey et al. shows the array of field emitter tips being formed in a matrix addressable by row select control signals.

15. Regarding claims 6 and 12, Cathey et al. disclose that the extraction grid may be formed as a continuous layer or as parallel strips, and the field emitter tip matrix is also addressable by column select control signals (Column 2, Lines 40-55).

16. Regarding claims 7 and 13, Figure 3 of Cathey et al. shows the extraction structure including a plurality of column electrodes (204) addressable by column select signals.

17. Regarding claims 8 and 14, Figure 3 of Cathey et al. shows a matrix of anode electrodes (308). Cathey et al. also disclose that a field-emission device has one or more voltage sources that maintain emitter tips at potential lower than the extraction grid.

18. Regarding claim 9, Cathey et al. disclose that the black matrix is provided for defining the discrete pixel areas of the display, which would improve the image contrast (Column 3, Lines 15-18).

***Claim Rejections - 35 USC § 103***

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cathey et al. (USPN 6255772).

21. Cathey et al. disclose the claimed invention as stated above except for the black matrix being formed of praseodymium-manganese oxide.

22. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a black matrix of praseodymium-manganese oxide in the display device of Cathey et al., since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of improving the image contrast of the device.

### ***Conclusion***

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rasmussen, USPN 6068750, discloses faceplates having black matrix material. Watkins et al., USPN 6054808, disclose a display device with grille having getter material. Zhang, USPN 5952771, discloses a micropoint switch for use with a field-emission display. Tjaden et al., USPN 5770919, disclose a field-emission device micropoint with current-limiting resistive structure. Janning, USPN 5982082, discloses field-emission display devices. Curtin et al., USPN 5576596, disclose optical devices, such as flat-panel cathode ray tube, having raised black matrix. Bechtel et al., USPN 5760542, disclose a color display device having short decay phosphors. Haven et al., USPN 5578899, disclose a field-emission device with internal structure for aligning phosphor pixels with corresponding field emitters. Ohoshi et al., USPN 5534749, disclose a field-emission display with black insulating layer between transparent electrode and conductive layer.


**Contact Information**

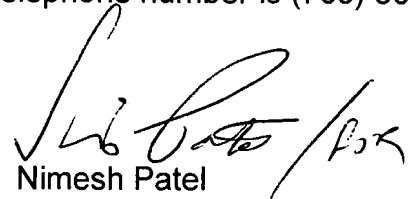
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (703) 308-6546. The examiner can normally be reached on M-F (8-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Kevin Quarterman  
Examiner  
Art Unit 2879

kq   
August 17, 2001

  
Nimesh Patel  
Supervisory Patent Examiner  
Art Unit 2879